

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	Uri Wilensky, Walter Stroup		
Title:	Distributed Agent Network Using Object Based Parallel Modeling Language to Dynamically Model Agent Activities		
Serial No.:	10/016,192	Filed:	December 12, 2001
Examiner:	David Silver	Group Art Unit:	2123
Docket No.:	045191.0001	Customer No.:	33438

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Board of Patent Appeals and Interferences  
United States Patent and Trademark Office  
P.O. Box 1450  
Alexandria, VA 22313-1450

Austin, Texas  
January 16, 2007

**REPLACEMENT SECTION FOR APPEAL BRIEF UNDER MPEP § 1205.03**

Dear Sir:

In response to the Notification of Non-Compliant Appeal Brief dated December 14, 2006 and pursuant to MPEP § 1205.03, Applicants submit this Replacement Section for the Appeal Brief. *See*, MPEP § 1205.03 (“When the Office holds the brief to be defective solely due to appellant’s failure to provide a summary of the claimed subject matter as required by 37 CFR 41.37(c)(1)(v), an entire new brief need not, and should not, be filed. Rather, a paper providing a summary of the claimed subject matter as required by 37 CFR 41.37(c)(1)(v) will suffice.”). According to the Notification, the originally submitted Appeal Brief does not meet the requirements for providing a summary of the claimed subject matter as required by 37 CFR § 41.37(c)(1)(v), in that “the claimed invention is not mapped to independent claim 8, which shall refer to the specification by page and line number and to the drawings, if any.” In requiring a mapping of claim 8 to the specification, it appears that the Board is imposing the appeal brief requirements for “step plus function” claims on claim 8. While Applicants do not agree that claim 8 should be interpreted to include “step plus function” elements, Applicants will nonetheless provide the requested mapping information in order to expedite the appeal process.

## V. SUMMARY OF CLAIMED SUBJECT MATTER - 37 CFR § 41.37(c)(1)(v)

The subject matter defined in independent claim 1 may be understood with reference to the example embodiment depicted in Figure 1 which depicts a modeling device for simulating complex dynamic systems (100). As recited, the complex dynamic system is embodied in the interaction of a plurality of remote agents (e.g., calculator devices 111, 113, 115, 117 and client machines 91, 93, 98), and is simulated at the central server computing device (109).

Each remote agent (e.g., 111, 113) includes logic to receive input data. *See, e.g.,* Application, p. 11, ¶ 26 (“...a remote computer device detects some form of input at the device at step 210 (such as numeric keypad entry or other sensory device inputs)...”). Each remote agent (e.g., 111, 113) also includes object control node information (114) corresponding to the performance of the remote agent and the relationship of the remote agent to the simulation. *See, e.g.,* Figure 1 (object control node 114). In addition, each remote agent includes control instructions to convert the input data into the control node information. *See, e.g.,* Application, p. 9, ¶ 24 (“..., a selected embodiment of the present invention enables the remote devices to efficiently and readily implement individualized control input for each object in the form of strategies or rules, and then to readily simulate the combined effect of the various inputs, strategies and rules from the distributed objects into a single simulation.”) (emphasis added). An example of the “object control node information” and “control instructions” is described in the Application:

When a remote computer device detects some form of input at the device at step 210 (such as numeric keypad entry or other sensory device inputs), the remote device detects the input and then transmits to the network 80 or centralized server 109 a flag indicating the "kind" and "content" of the information that has been detected. It will be appreciated that additional or alternative information can be transmitted upon detection of input at a remote device, such as a time stamp indication or some other programming component characterizing the detected input. In the example discussed herein of a simulation involving the positioning of multiple objects within a given space, the detected input could consist of a position movement indicator (such as an up, down, left or right signal) and/or a rule for controlling the motion of the object (such as an instruction to always move two spaces to the right whenever the object is co-positioned with another object in the physical space). These simplified examples will illustrate the functionality of the present invention to those skilled in the art concerning step 210.

*See, e.g.,* Application, p. 11, ¶ 26 (emphasis added). Finally, each remote agent includes logic for transmitting the object control node information and the control instructions to a centralized

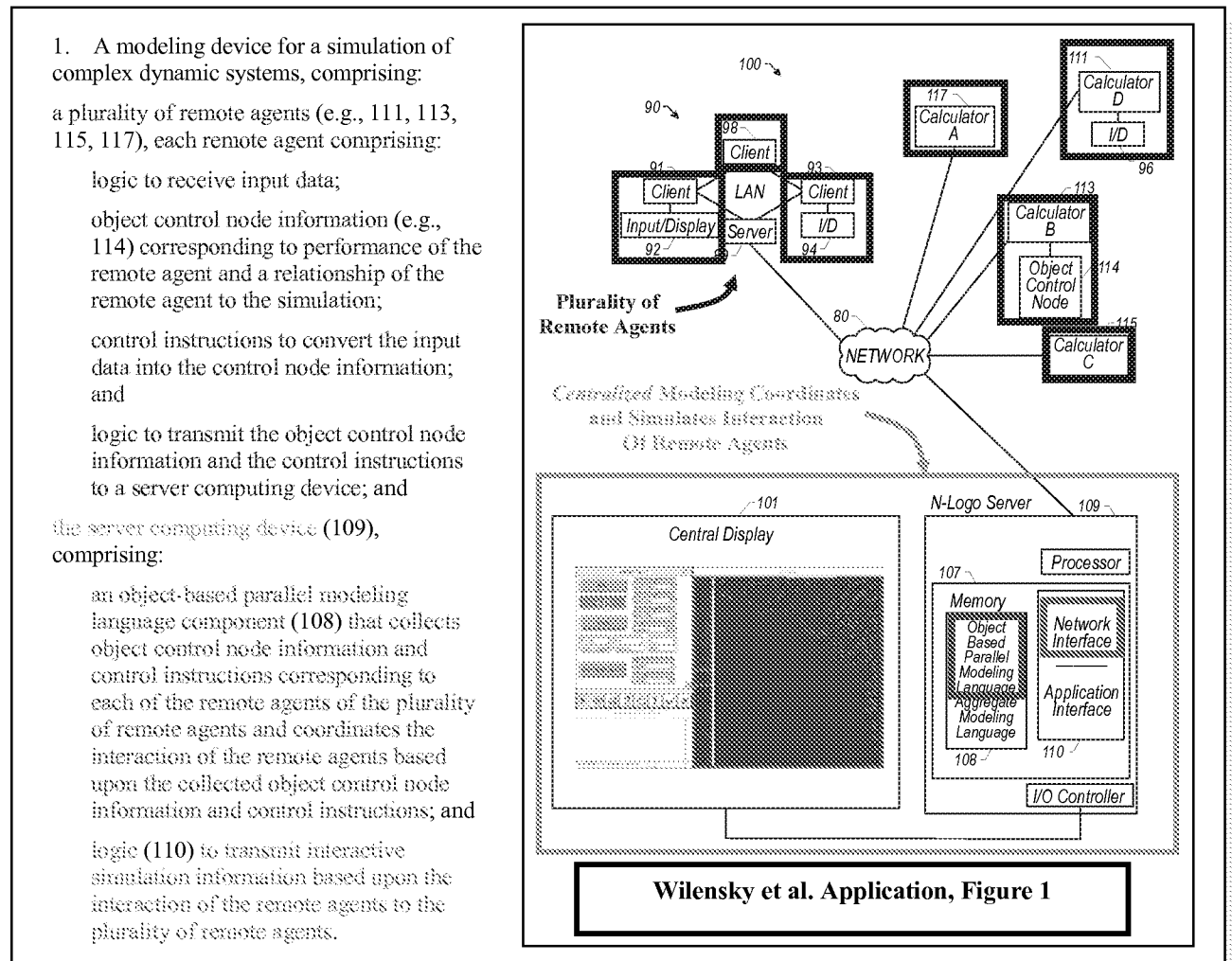
server computing device. *See, e.g., Application, ¶¶ 26-27* (“...the remote device detects and transmits information at step 210 to the centralized network or server...”).

At the centralized server computing device (109), an object-based parallel modeling language component (108) is provided for collecting object control node information and control instructions from each of the plurality of remote agents. The object-based parallel modeling language component (108) also coordinates the interaction of the remote agents based upon the collected object control node information and control instructions. An example implementation is described in the Application:

At the central server 109, the inputs from the various remote devices are collected and aggregated together using modeling, analysis and display tools that together are used to simulate in real time the complex interplay between the individual nodes or objects controlled by the remote devices. By providing an object-based parallel modeling language 108 at the server 109, users at the remote "nodes" can readily encode individualized strategies as rules which the system can then run independently of the other nodes, while simultaneously determining the resulting interplay between the various nodes and broadcasting the result to all remote devices.

*See, e.g., Application, p. 8, ¶ 22.* The server computing device (109) also includes logic for transmitting the interactive simulation information based upon the interaction of the remote agents to the plurality of remote agents. *See, e.g., Application, p. 12, ¶ 29* (“Once the centralized simulation server determines for a particular object string that there is an effect that results from a co-positioning at step 220, that effect would be broadcast to all of the remote devices at step 225 to convey information about the result, and then the server would continue to process in sequence the remaining object strings.”)

To comply with 37 CFR § 41.37(c)(1)(v), a color-coded comparison of independent claim 1 (including reference characters) and the relevant portion of Figure 1 is set forth below:



In further compliance with 37 CFR § 41.37(c)(1)(v), a color-coded comparison of selected Figures from the application and each of the pending independent claims is attached at Appendix “C” to provide a concise explanation of the subject matter defined in each independent claim. The subject matter of the independent claims is set forth in the specification at page 4, line 5 to page 27, line 10.

In compliance with the requirement in the Notification of Non-Compliant Appeal Brief dated December 14, 2006, the following table is provided to identify the acts described in the specification (with reference to page and line number and reference characters) as corresponding to the elements of claim 8, which may be understood with reference to the example embodiment

depicted in Figure 2 which depicts a method of producing a coordinated and interactive simulation of a dynamic system:

<b>Claim 8</b>	<b>Description of Example Corresponding Acts From Specification</b>
8. A method of producing a coordinated and interactive simulation of a dynamic system, comprising the steps of:	<i>See e.g.</i> , Figure 2, 210 and page 10, line 10 to page 13, line 13. <i>See also</i> , Figure 1, and page 7, line 3 to page 9, line 16.
defining a set of remote agents, wherein each remote agent performs the steps of:	<i>See e.g.</i> , Figure 2, 210 and page 11, lines 1-15. <i>See also</i> , Figure 1 (e.g., 91 and 117); page 7, lines 3-14; page 7, line 18 to page 8, line 6; and page 8, line 18 to page 9, line 2.
receiving input data;	<i>See e.g.</i> , Figure 2, 210 and page 11, lines 1-5 and 14-15. <i>See also</i> , Figure 1 (e.g., 91 and 117); page 7, lines 3-14; page 7, line 18 to page 8, line 6; and page 8, line 18 to page 9, line 2.
transmitting the input data and control instructions relating to a corresponding remote agent of the set of remote agents to a server computing device; and	<i>See e.g.</i> , Figure 2, 210 and page 11, lines 1-12 and 14-15. <i>See also</i> , Figure 1 (e.g., 91 and 117) and page 7, lines 3-14, page 7, line 18 to page 8, line 6 and page 8, line 21 to page 9, line 2.
collecting the input data and control instructions from each of the remote agents of the plurality of remote agents at the server computing device;	<i>See e.g.</i> , Figure 2, 215 and page 11, lines 14-16. <i>See also</i> , Figure 1 (e.g., 109); page 7, lines 3-14; page 8, lines 7-10; page 8, lines 18-21; and page 9, lines 10-16.
coordinating the interaction of the remote agents at the server computing device based upon the input data and the control instructions, each set of control instructions corresponding to the set of control instructions of each remote agent of the plurality of remote agents; and	<i>See e.g.</i> , Figure 2, 220 and page 11, line 18 to page 12, line 4. <i>See also</i> , Figure 1 (e.g., 109); page 7, lines 3-14; page 8, lines 7-17; page 8, lines 18-21; and page 9, lines 10-16.
transmitting interactive simulation information based upon the coordination of the interaction of the remote agents from the server computing device to the plurality of remote agents.	<i>See e.g.</i> , Figure 2, 225 and page 12, lines 19-22. <i>See also</i> , Figure 1 (e.g., 109, 91 and 117); page 7, lines 3-14; page 8, lines 7-17; page 8, lines 18-21; and page 9, lines 10-16.

As explained above, Applicants do not believe that the claim should be construed under 35 U.S.C. § 112. However, solely for purposes of expediting the appeal, Applicants have identified, for each element of claim 8 (which the Board appears to have construed as a “step plus function” claim elements), a description of corresponding exemplary acts from the

specification, though it will be appreciated that the referenced description includes contextual information to provide an overall context for an example embodiment, and therefore should not be used to improperly read limitations from the specification into claim 8.

### **CONCLUSION**

Applicants respectfully submit that the foregoing replacement section for the Appeal Brief meets the requirements for providing a summary of the claimed subject matter as required by 37 CFR § 41.37(c)(1)(v), and that as a result, the Appeal Brief now complies with the provisions of 37 CFR § 41.37. It is not believed that any fees are required for this submission, but if any fees are necessary, the Board is hereby authorized to deduct any amounts required for this submission and to credit any amounts overpaid to Deposit Account No. 502264.

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Respectfully submitted,

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## APPENDIX C

1. A modeling device for a simulation of complex dynamic systems, comprising:

a plurality of remote agents, each remote agent comprising:

logic to receive input data;

object control node information corresponding to performance of the remote agent and a relationship of the remote agent to the simulation;

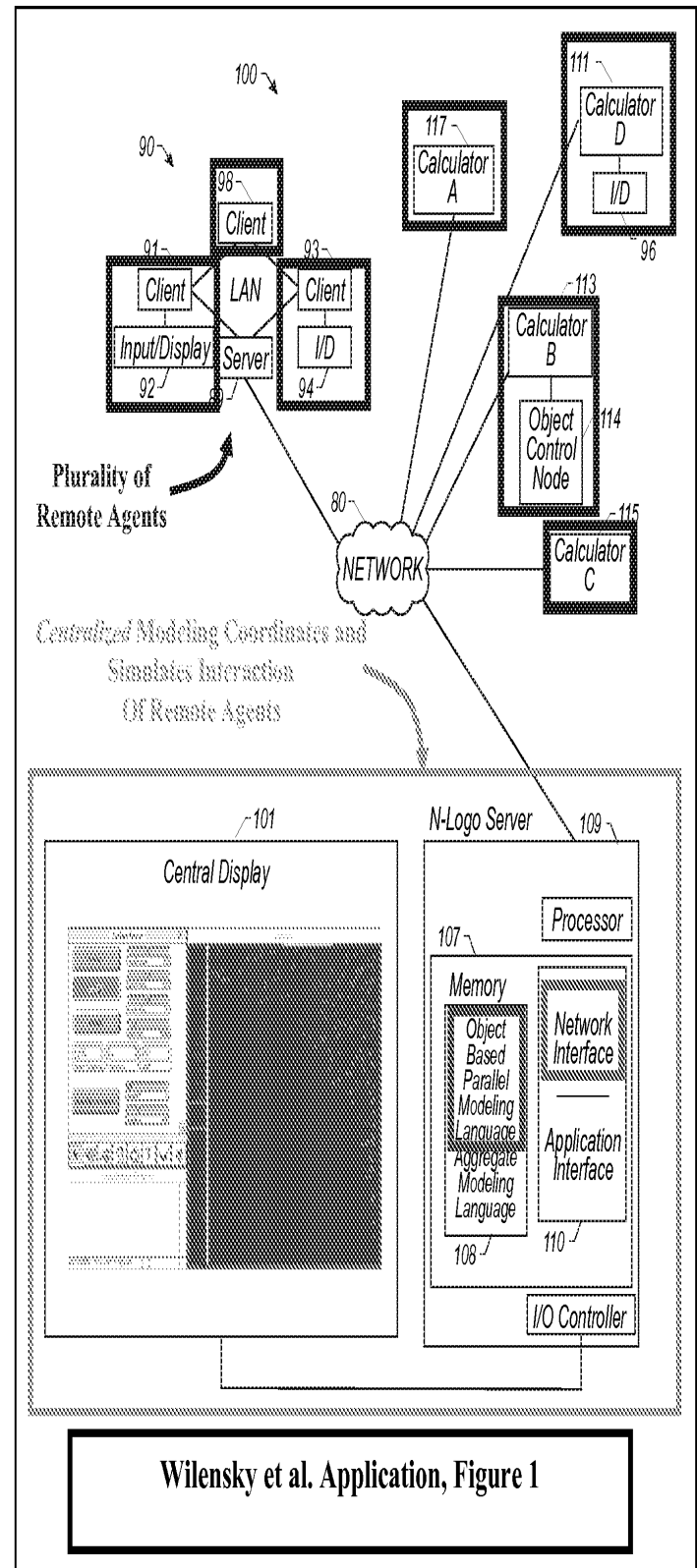
control instructions to convert the input data into the control node information; and

logic to transmit the object control node information and the control instructions to a server computing device; and

the server computing device, comprising:

an object-based parallel modeling language component that collects object control node information and control instructions corresponding to each of the remote agents of the plurality of remote agents and coordinates the interaction of the remote agents based upon the collected object control node information and control instructions; and

logic to transmit interactive simulation information based upon the interaction of the remote agents to the plurality of remote agents.



8. A method of producing a coordinated and interactive simulation of a dynamic system, comprising the steps of:

defining a set of remote agents, wherein each remote agent performs the steps of:

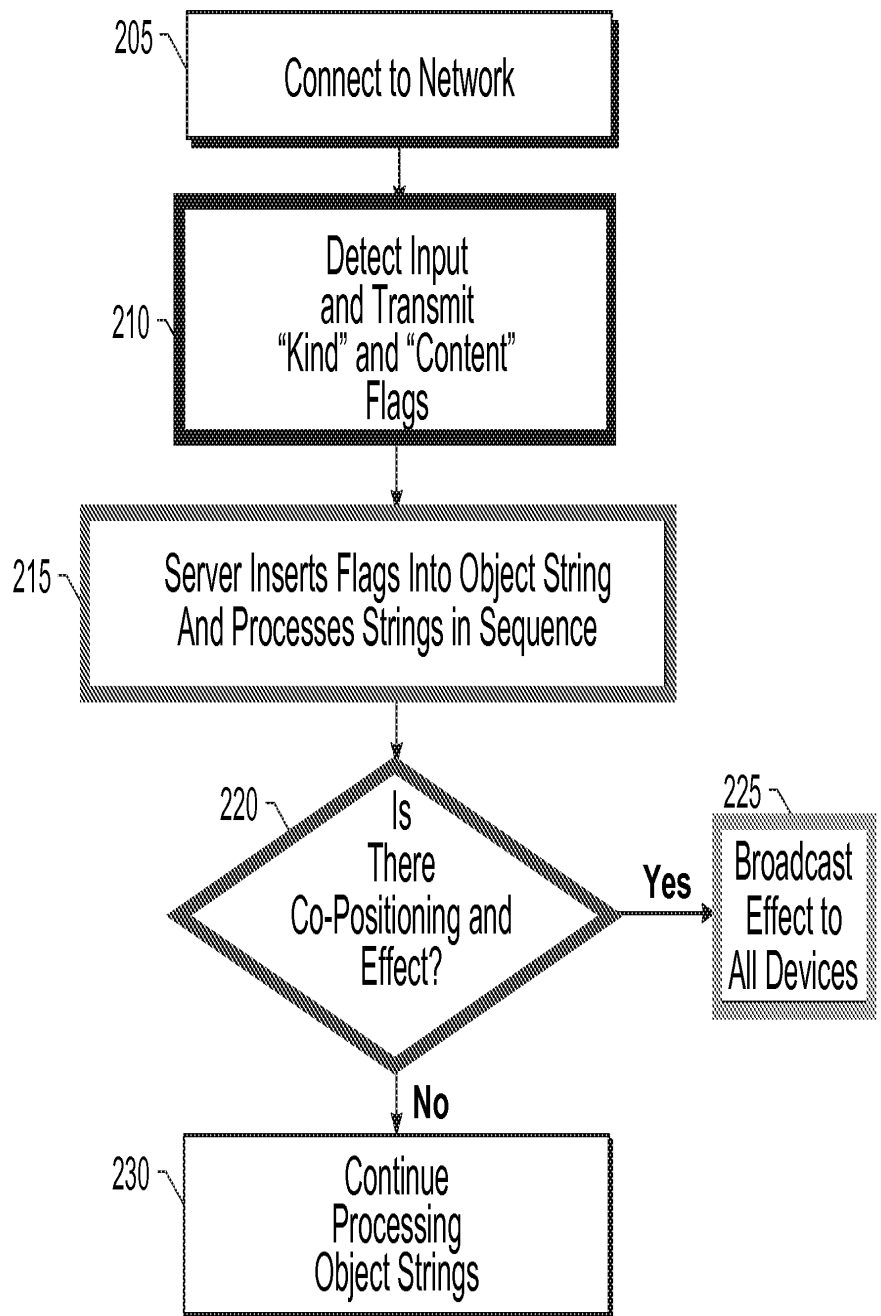
receiving input data;

transmitting the input data and control instructions relating to a corresponding remote agent of the set of remote agents to a server computing device; and

collecting the input data and control instructions from each of the remote agents of the plurality of remote agents at the server computing device;

coordinating the interaction of the remote agents at the server computing device based upon the input data and the control instructions, each set of control instructions corresponding to the set of control instructions of each remote agent of the plurality of remote agents; and

transmitting interactive simulation information based upon the coordination of the interaction of the remote agents from the server computing device to the plurality of remote agents.



Wilensky et al. Application, Figure 2